AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (currently amended)   A system to detect a position of a member movable along a defined path comprising:

a magnetic source radiating a magnetic field coupled to a movable member;

a array of sensors comprising magneto-resistive sensors ~~fixed relative to the movable member~~, each sensor generates an output response value based on an angle of the magnetic field passing through each sensor, the array of sensors producing a plurality of output response values for a first position of the movable member; and

an analyzer for receiving the plurality of output response values and calculating a composite output response value to determine the first position of the movable member.

2. (canceled)

3. (original)   The system according to claim 1, wherein the movable member moves along a defined non-linear path.

4. (original)   The system according to claim 1, wherein the movable member moves along a defined curved path.

5. (original)   The system according to claim 1, wherein the movable member moves along a defined circular path.

6. (original)   The system according to claim 1, wherein the array of sensors define a non-linear array of sensors.

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7.   (original)   The system according to claim 1, wherein the array of sensors define a curved array of sensors.

8.   (original)   The system according to claim 1, wherein the array of sensors comprise an array of 4 sensors.

9.   (original)   The system according to claim 1, wherein the array of sensors comprise an array of 7 sensors.

10.   (currently amended)   A method for determining a position of a member movable along a defined path, comprising the following steps:

    providing a magnetic source radiating a magnetic field coupled to a movable member movable along a defined <u>non-linear</u> path;

    providing an array of sensors ~~fixed relative to the movable member~~, each sensor generating an output response value based on an angle of the field passing through each sensor, the array of sensors producing a plurality of output response values for a first position of the movable member;

    calculating a composite output response value from the plurality of output response values; and

    determining the first position of the movable member from the calculated composite output response value.

11.   (original)   The method according to claim 10, further comprising the step of determining a path reference curve based on the composite output response value for a plurality of positions of the movable member along the defined path.

12.   (original)   The method according to claim 11, wherein the determining the first position of the movable member step comprises determining the first position of the movable member by comparing the calculated composite output response value to the path reference curve.

13.   (canceled)

14.   (original)   The method according to claim 10, wherein the providing a
magnetic source step comprises providing a magnetic source radiating a magnetic field coupled
to a movable member movable along a curved path.

15.   (original)   The method according to claim 10, wherein the providing a
magnetic source step comprises providing a magnetic source radiating a magnetic field coupled
to a movable member movable along a circular path.

16.   (currently amended)   A system to detect a position of a member movable along a
defined path comprising:
    a radiating means for radiating a magnetic field coupled to a movable means for moving
        along a defined non-linear path;
    a array of sensor means for sensing a magnetic field angle, ~~the sensor means fixed relative
        to the movable means,~~ each sensor means generates an output response value
        based on an angle of the magnetic field passing through each sensor means, the
        array of sensor means producing a plurality of output response values for a first
        position of the movable means; and
    an analyzer means for receiving the plurality of output response values and calculating a
        composite output response value to determine the first position of the movable
        means.

17.   (canceled)

18.   (currently amended)   A method for determining a position of a member movable
along a defined path, comprising the following steps:
    providing a radiating means for radiating a magnetic field coupled to a movable means
        for moving along a defined non-linear path;

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providing an array of sensor means for sensing a magnetic field angle, ~~the sensor means fixed relative to the movable means,~~ each sensor means generating an output response value based on an angle of the field passing through each sensor means, the array of sensors means producing a plurality of output response values for a first position of the movable means;

calculating a composite output response value from the plurality of output response values; and

determining the first position of the movable means from the calculated composite output response value.

19.   (original)   The method according to claim 18, further comprising the step of determining a path reference means for position reference based on the composite output response value for a plurality of positions of the movable means along the defined path.

20.   (original)   The method according to claim 18, wherein the determining the first position of the movable means step comprises determining the first position of the movable means by comparing the calculated composite output response value to the path reference curve.

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